PHEGEA

driemaandelijks tijdschrift van de

VLAAMSE VERENIGING VOOR ENTOMOLOGIE

ISSN 0771-5277

Periode: januari – februari – maart 2020 Erkenningsnr. P209674

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Jaargang 48, nummer 1
1 maart 2020

Papilio demoleus Linnaeus, 1758 – zie pagina 21

De Prins W.: *Gynaephora selenitica* (Lepidoptera: Erebidae: Lymantriinae), another enigmatic species of the Belgian fauna 2

Çalışkan S. & Bozacı V.: Diversity of vernal butterflies of the East Mediterranean region of Turkey 5

De Ridder L.: *Macaria artesiaria* terug waargenomen in België (Lepidoptera, Geometridae) 11

Berry M. & Alexiou S.: Confirmation of the presence of *Zizeeria karsandra* (Lepidoptera, Lycaenidae) on Rhodos Island, Greece 14

Anastassíu H. T. & Coutsis J. G.: A thriving colony of *Melitaea aurelia* recorded in the Greek part of the Rodhópi Mts., and an important note on female identification based on genitalic features (Lepidoptera: Nymphalidae, Melitaeinae) 16

Başbay O., Salimeh M. & John E. Preliminary note on the range expansion of *Papilio demoleus* (Lepidoptera: Papilionidae) in south-eastern Turkey, and on the first documented arrival of this invasive species at the Mediterranean coast of Syria 20

Melkert F. Ontmoeting met de walstropijlstaart (*Hyles gallii* Rottemburg, 1775) in 2018 22

Troukens W. *Podagrica fuscipes* (Fabricius, 1775) in België (Coleoptera: Chrysomelidae) 24

Gynaephora selenitica (Lepidoptera: Erebidae: Lymantriinae), another enigmatic species of the Belgian fauna

Willy De Prins

Abstract. One male specimen of *Gynaephora selenitica* (Esper, 1789) was retrieved in the collection of the Royal Belgian Institute of Natural Sciences. It was caught at Stoumont (LG) on 16.viii.1932 by J. Depré. This specimen probably belonged to a relict population of this species which got extinct in the mid of the 20th century.

Samenvatting. In de verzameling van het Koninklijk Belgisch Instituut voor Natuurwetenschappen werd een mannetje van *Gynaephora selenitica* (Esper, 1789) teruggevonden dat gevangen was te Stoumont (LG) op 16.viii.1932 door J. Depré. Dit exemplaar behoorde waarschijnlijk tot een relictpopulatie van deze soort die uitstierf in het midden van de 20ste eeuw.

Résumé. Un mâle de *Gynaephora selenitica* (Esper, 1789) a été retrouvé dans la collection de l'Institut Royal des Sciences Naturelles de Belgique. Il a été pris à Stoumont (LG) le 16.viii.1932 par J. Depré. Ce spécimen appartenait probablement à une population relique de cette espèce qui a disparu au milieu du 20ième siècle.

Key words: *Gynaephora selenitica* – New record – Extinction.

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Introduction

During the curation of the Belgian Lepidoptera collection deposited in the Royal Belgian Institute of Natural Sciences, a male specimen of *Gynaephora selenitica* (Esper, 1789) was discovered among the huge material of *Lymantria dispar* (Linnaeus, 1758). It was not even set apart and probably just considered as a variety or aberration of *L. dispar*. The male specimen was caught at Stoumont (LG) on 16.viii.1932 and suffered from pest attacks as great parts of the thorax have been eaten (Fig. 1). It belonged to the collection of Jean Depré (sometimes also spelled De Pré) and was very likely collected by himself. He lived in Liège and joined the Société entomologique de Belgique in 1926 where he was interested in "Entomologie générale". He was no longer mentioned in the membership lists of the society after 1955. He furthermore was a member of the Cercle des Entomologistes Liégeois and accepted a post as commissioner in the library of the Cercle in May 1941 (Leclercq 2014: 22). He was a citizen scientist (he earned his living as a hairdresser), and he very often collected (mainly beetles) in the Hautes-Fagnes, but also some other insects. In 1966, his collection was sold to the Royal Belgian Institute of Natural Sciences. It contained 7977 specimens of Coleoptera, 891 Lepidoptera and 134 Hemiptera, all of which have been dispersed into the general collections of the Institute (S. Kerkhof, pers. comm.). All the specimens contained a label with the usual faunistic data (locality and date) and sometimes even with detailed information about the circumstances in which the specimen was caught. Therefore, it may be assumed with great certainty that the specimen of *Gynaephora selenitica*, contained in this collection, formed part of a relict population of this species still present in the Hautes-Fagnes in the beginning of the 20th century. This population probably belonged to the "wet and cold raised bogs" strain (see further in the distribution in Germany) which died out in the mid of the 20th century in the same period and perhaps because of the same causes which laid to the extinction of *Colias palaeno* (Linnaeus, 1760) in Belgium (extremely cold winter without snow cover). The only remaining doubt about this specimen is its collecting date. August is the caterpillar period which extends till May of the next year.

Distribution

G. selenitica occurs in Central Europe eastwards till the Carpathian Mountains in Poland and in Finland, but the species is absent in West and North-West Europe (de Freina & Witt 1987: 200). The distribution map (nr. 125) in the same publication shows an area almost touching the Grand Duchy of Luxembourg. Stoumont is situated roughly 200 km to the north-west of that point. A similar map in Speidel & Witt (2011) is a little more detailed and also shows some isolated populations in central France.

Schintlmeister (1996) and Skule & Fibiger (2017) record the species from Austria, Belarus, Estonia, Finland, France, Germany, Latvia, Lithuania, Macedonia, Poland, Romania and Russia, doubtful from Slovakia. Bryk (1934) furthermore records the species from Hungary "bis über den Rhein" and adds, already in 1934, that it is "lokal". The record of Hungary is not repeated in the later publications.

In Germany, the species has been recorded from 10 Bundesländer: Baden-Württemberg, Bayern, Hessen, Niedersachsen, Nordrhein-Westfalen, Rheinland-Pfalz, Saarland, Sachsen, Sachsen-Anhalt, and Thüringen, though it has not been recorded in five of them after 1980. It still occurs in Baden-Württemberg, Bayern, Hessen, Sachsen-Anhalt and Thüringen, though everywhere populations are declining (Gaedike & Heinicke 1999, Lepiforum 2019).

The species used to be observed in May [no year stated] "nicht selten" in a dry area with a lot of bushes and shrubs near Mechtersheim (Rheinland-Pfalz) (Heuser & Jöst 1959), but these authors write one sentence later that the habitat has been destroyed since then. Nevertheless, some specimens were observed in another habitat south of Mechtersheim in 1938.

A detailed account of the occurrence of *G. selenitica* in Baden-Württemberg reveals that it occurs there in two completely separated areas: the northern dry and xerothermic Muschelkalkgebiete in Tauberland at an

altitude between 200 and 400 m and the wet and cold raised bogs in Oberschwaben and West Allgau at an altitude of resp. 580 and 700 m (Ebert 1994). The species has been recorded several times in both areas, especially in the first half of the 20th century, but since about 1950 the populations have been shrinking dramatically, especially in the southern area of Oberschwaben.

In France, Lhomme (1923–1935) mentioned the species only from the departments Basses-Alpes (currently Alpes-de-Haute-Provence) and Isère, and doubtfully from Cher. Lépi'Net (2019) acknowledges the occurrence of the species in both former departments and adds Drôme, Hautes-Alpes, Savoie, and Vaucluse, all situated in South-East France, with records after 1980. Furthermore, Drouet & Filosa (2015) mention a record from the Alpes-Maritimes in 1922. Finally, P. Leraut (2006) mentions an old record from Moselle in 1789.

Fig. 1. The only specimen of *Gynaephora selenitica* found in Belgium, a male at Stoumont, LG, 16.viii.1932, ex coll. J. Depré. ©Jurate De Prins.

Biology

The eggs are deposited in rings and covered with the hairs of the last abdominal segment of the female. They were e.g. found on dry grass stems in June (Bergmann 1953).

The caterpillar is highly polyphagous. It has been recorded from *Onobrychis sativa, Hippocrepis comosa, Medicago sativa, Lathyrus* (all Fabaceae) but also from *Prunus spinosa* (Rosaceae) and trees like *Larix, Pinus* (Pinaceae), *Salix aurita, S. cinerea* (Salicaceae), *Betula pubescens* (Betulaceae), and *Quercus* (Fabaceae) (Bergmann 1953, de Freina & Witt 1987, Ebert 1994). The larvae can be found from early August, hibernating till March. They usually never occur higher than 50 cm from the soil, hide in the morning, but tend to bask in late afternoon, during warm late summer days' sunshine on bushes, grasses and the like, sometimes in high numbers. A great number of the caterpillars dies during the winter period, because of a.o. diseases, parasitism and predation (e.g. the bug *Picromeris bidens*), explaining the fact that the adult moth is usually rarely seen. Even in artificial conditions, many caterpillars die during the hibernation period (Bergman 1953). In the winters of 1936–1937 and again in 1941–1942, from about 100 caterpillars each time, only 2 females and no males have hatched (Heuser & Jöst 1959). The short flight period extends from mid-May till mid-June. Males have been observed flying close to the ground just before noon in search for females, in a swift flight resembling a *Pyrgus* specimen (Bergmann 1953, Heuser & Jöst 1959, Ebert 1994).

G. selenitica occurs in two quite different ecological variants: dry heathlands and wet raised bogs. In some areas of its distribution it requires dry, xerothermic, huge, open areas like heathlands, large open places in forests and sunny sides of forests, preferably on limestone (de Freina & Witt 1987, Wagner 2019). However, in some areas, the species occurs in cold and wet habitats like Hochmoore (raised bogs), with many *Calluna vulgaris* and bushes of *Salix* and *Betula*. This is e.g. the case in Oberschwaben (Baden-Württemberg) (Ebert 1994). The caterpillar of *G. selenitica* lives in the northern limestone area of Baden-Württemberg (Tauberland) on lower plants like *Agrimonia eupatoria, Coronilla varia, Aster linosyris* and *Vicia tenuifolia*, while in the southern raised bogs it feeds on *Salix aurita, S. cinerea* and *Betula pubescens* (Ebert 1994). The Belgian population belonged to the strain that lived in wet and cold raised bogs and probably fed mainly on *Salix* and *Betula*.

Acknowledgements

I would like to thank Theo Garrevoet for his information about the habitat in the Hautes-Fagnes around Stoumont and for his comments on an earlier draft of this paper, and also Stefan Kerkhof for the information on Jean Depré and his entomological collection.

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Diversity of vernal butterflies of the East Mediterranean region of Turkey

Selma Seven Çalışkan & Vildan Bozacı

Abstract. In this study, spring butterflies of the East Mediterranean Region were searched and 104 taxa belonging to 5 families were determined. Butterfly specimens were caught with a butterfly net at 67 locations during the field work. The family distribution of species was Hesperiidae: 17, Lycaenidae: 39, Nymphalidae: 25, Papilionidae: 5 and Pieridae: 18. Evaluation of the vertical distribution of all species revealed that the highest and the lowest number of species were found at respectively 1000–1250 m (61 species) and 1750 m (10 species).

Samenvatting. In deze studie werden voorjaarsdagvlinders van het Oost-Mediterrane Zeegebied onderzocht en 104 taxa, behorende tot 5 families, werden bepaald. Gedurende het veldwerk werden op 67 locaties vlinders gevangen met een vlindernet. De soortverdeling per familie was Hesperiidae: 17, Lycaenidae: 39, Nymphalidae: 25, Papilionidae: 5 and Pieridae: 18. Uit de evaluatie van de verticale distributie van alle soorten bleek dat het hoogste en laagste aantal soorten gevonden werd op respectievelijk 1000–1250 m (61 soorten) en 1750 m (10 soorten).

Résumé. Dans cette étude, des papillons printaniers dans la Méditerranée Orientale ont été examinés et 104 taxons, appartenant à 5 familles, ont été déterminés. Pendant le travail sur le terrain, les papillons ont été capturés avec un filet à papillon à 67 endroits. La distribution des espèces par famille était Hesperiidae: 17, Lycaenidae: 39, Nymphalidae: 25, Papilionidae: 5 and Pieridae: 18. L'évaluation de la distribution verticale de toutes les espèces a montré que le nombre le plus élevé et le plus bas d'espèces se situait respectivement à 1000–1250 m (61 espèces) et à 1750 m (10 espèces).

Key words: Vertical Distribution – Evaluation – Species richness.

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Introduction

A lot of scientific research about Turkish butterflies comprising faunistic records by foreign and native researchers is available. The vernal butterflies (Lepidoptera, Papilionoidea) of the East-Mediterranean region are relatively well studied. There are detailed publications on faunistics (Hesselbarth *et al*., 1995; Koçak 1982, 1989, 1990; 1993, 2017a, 2017b; Koçak & Seven 1990, 1991; Koçak & Kemal 2007, 2014; Seven 2016).

The aim of this study is to determine the vernal butterflies and their vertical distributions in the Eastern Mediterranean, an important agricultural and touristic area.

Material and methods

Turkey consists of 7 different geographical regions: the Aegean Region, the Black Sea Region, the Central Anatolia Region, the Eastern Anatolia Region, the South-eastern Anatolia Region, the Marmara Region and the Mediterranean Region (Seven 2016). Adana, Kahramanmaraş, Kayseri, Konya, Mersin, Niğde, and Osmaniye were selected as research areas and are located in the Mediterranean and in the Central Anatolia Regions (fig. 1). The field research of this study was conducted within the scope of the Anatolian Cross Biodiversity Project of The Nature Conservation Center.

Butterfly species were collected by the authors within the borders of the East Mediterranean region at daytime, between April and June 2008. Collection areas are shown on the map (fig. 1). Butterfly specimens were collected with a butterfly net and then placed in triangle papers using tweezers. Precautions were made to not harm the butterfly populations. Only a small number of specimens was collected from the locations and some of the captured species were released after examination.

The collected specimens were rehydrated in special containers in the laboratory and mounted on setting boards according to the procedure of the university museum. The dried specimens were labelled and placed in collection boxes of the Gazi University Science Faculty, Zoology Museum collection.

For the identification of specimens, Hesselbarth *et al*. (1995), Tshikolovets (2011) and the author's private collection were consulted. Valid scientific family-group names were given according van Nieukerken *et al*., (2011).

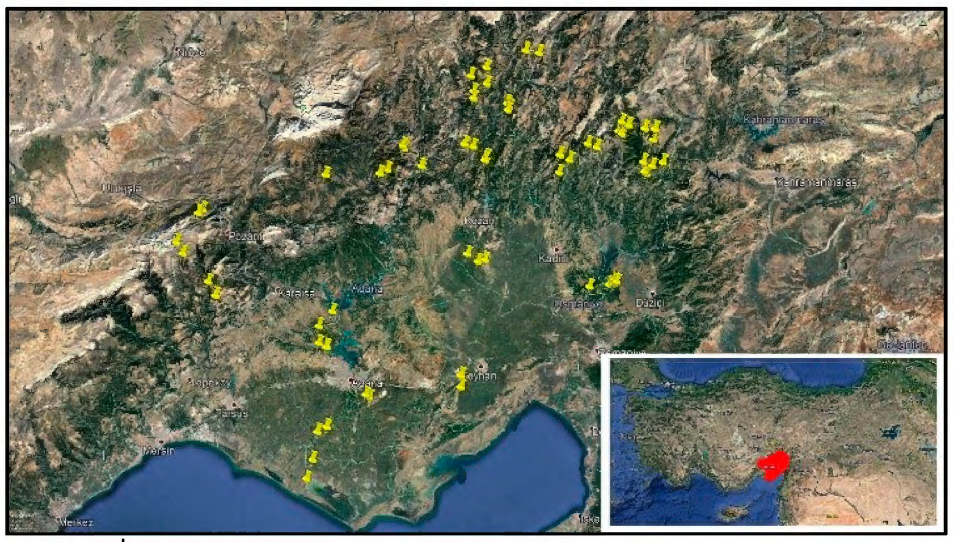

Fig. 1 The research area and the collecting stations.
Het onderzoeksgebied en de verzamelplaatsen.

Results and discussion

The Lepidoptera fauna of Turkey has been studied by multiple scientists. According to their reports, the butterfly fauna of Turkey consists of more than 414 species (Koçak 2014). This is the first study to determine the vernal butterfly fauna of the East-Mediterranean region. A total of 104 species and subspecies belonging to 5 families are identified (table 1).

Euchloe (*Elphinstonia*) *penia* (Freyer 1851) was first recorded from Adana in 1880 and, after 120 years, recorded for the second time with this study.

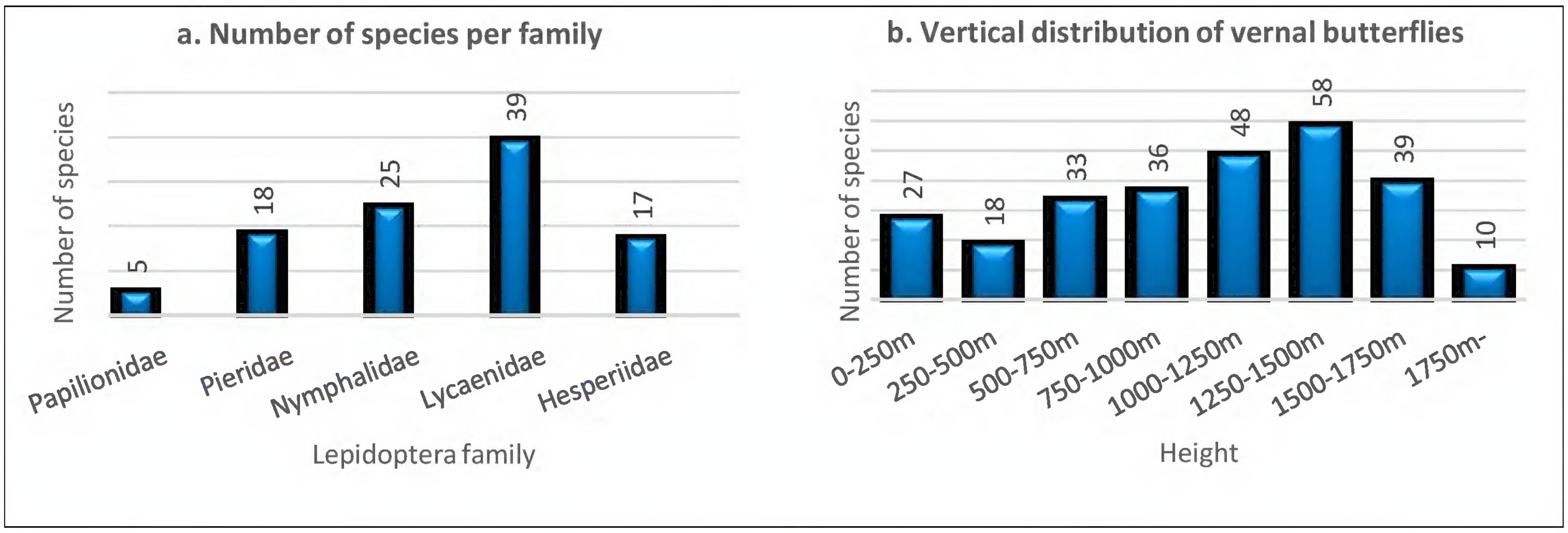

Fig. 2 The diversity of vernal butterflies of the research area; a. the number of species per family; b. the vertical distribution of the collected vernal butterflies.

De diversiteit van voorjaarsdagvlinders in het studiegebied; a. het aantal soorten per familie; b. de verticale distributie van de gevangen voorjaarsdagvlinders.

As a result of this study, the authors discovered that species richness of the majority of the vernal butterfly fauna in the research area is formed by Hesperiidae: 17, Lycaenidae: 39, Nymphalidae: 25, Papilionidae: 5 (fig. 2a). Lycaenidae is the richest family with 39 species from the East Mediterranean Region.

Thirty four species were collected between 0–250 m, 19 species were collected between 250-500 m, 34 species were collected between 500-750 m, 50 species were collected between 750–1000 m, 61 species were collected between 1000–1250 m, 58 species were collected between 1250–1500 m, 40 species were collected on 1500-1750 m and 10 species were collected above of 1700 m (H) (Fig. 2). The low number of species between 250–500 m is due to the low collection activity at these heights. Cultivation of areas play also a negative effect on the number of species richness. At the stations 21, 46, 48, 58 and 66, no collection could be performed because of unfavourable weather conditions.

The highest diversity was detected from 1000–1250 m and 1250–1500 m study zone. The decrease in the anthropogenic factors on the butterfly habitats, and abundance of favourable natural spaces at these heights resulted in an increase of species numbers. Favourable seasonal temperatures and weather conditions are additional positive factors.

Due to the low temperature and the lack of vegetation at the time of the study, the recorded species number at 1500 m is quite low. With the increase of temperatures, an increase of species diversity and a change of species composition are expected.

Acknowledgement

Thanks to The Nature Conservation Center (Ankara, Turkey) for their support in fieldwork.

Table 1. Vernal Butterflies of the East Mediterranean Region of Turkey (NS: Number of species, Al: Altitude: A (0–250), B (250–500), C (500–750), D (750–1000), E (1000–1250), F (1250–1500), G (1500–1750), H (>1750).

Family	Taxon	Locality	NS	Al (m)
Papilionidae	1. *Zerynthia cerisy* (Godart, 1824)	50, 61, 43, 65, 23, 35, 51, 52, 60, 67	10	D, E, F, G
	2. *Archon apollinus bellargus* (Staudinger, [1892])	65	1	E
	3. *Parnassius mnemosyne nebulosus* Christoph, 1873	23, 25, 51, 52, 54	5	E, F, G
	4. *Iphiclides podalirius* (Linnaeus, 1758)	22, 23, 51, 52, 53	5	D, F
	5. *Papilio machaon* Linnaeus, 1758	31	1	D
Pieridae	6. *Leptidea duponcheli lorkovici* Pfeiffer, [1932]	67	1	G
	7. *Leptidea sinapis* (Linnaeus, 1758)	51, 60	2	E, F
	8. *Pieris ergane* (Geyer, [1828])	22, 64, 67	3	E, F, G

Family	Taxon	Locality	NS	Al (m)
	9. *Pieris krueperi* Staudinger, 1860	22	2	F
	10. *Pieris psuedorapae* Verity, 1908	50, 31, 57, 41	8	E, D
	11. *Pieris rapae* Linnaeus, 1758)	1, 2, 3, 4, 5, 6, 7, 10, 11, 12, 14, 15, 17, 20, 49, 56, 57, 61, 22, 30, 40, 42, 51, 52, 54, 60, 62, 63	14	A, B, C, D, E, F
	12. *Pieris brassicae* (Linnaeus, 1758)	7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 57, 61, 43, 44, 45, 65, 22, 23, 25, 27, 28, 29, 31, 33, 35, 36, 38, 39, 40, 41, 51, 52, 54, 60, 62, 63, 67	1	A, B, C, D, E, F, G
	13. *Pontia callidice* (Hübner, 1800)	24	1	H
	14. *Pontia edusa* (Fabricius, 1777)	8, 15, 31, 36, 37, 40, 42, 52, 53, 54, 60	1	A, C, D, E, F
	15. *Anthocharis cardamines* (Linnaeus, 1758)	55, 56, 57, 61, 44	5	C, D, F
	16. *Anthocharis damone* Boisduval, 1836	22, 23	2	F
	17. *Euchloe penia* (Freyer, [1852])	44	2	C
	18. *Euchloe ausonia taurica* Röber, [1907]	7, 8, 14, 15, 17, 19, 65, 27, 29, 40, 62	5	A, B, C, E
	19. *Zegris eupheme menestho* (Ménétriés,1832)	67	1	G
	20. *Colias croceus* (Geoffroy, 1785)	2, 3, 5, 6, 7, 8, 10, 11, 13, 17, 19, 49, 61, 43, 65, 22, 25, 26, 27, 28, 29, 30, 31, 32, 33, 36, 37, 38, 39, 40, 41, 42, 51, 52, 53, 54, 60, 62, 63, 64, 67	9	A, B, C, D, E, F, G
	21. *Colias alfacariensis* Ribbe, 1905	23, 25, 51, 52, 60, 67	2	E, F, G
	22. *Gonepteryx cleopatra* (Linnaeus, 1767)	31	1	D
	23. *Gonepteryx rhamni* (Linnaeus, 1758)	61, 63	1	D, F
Nymphalidae	24. *Libythea celtis* (Laicharting, 1782)	63	1	F
	25. *Kirinia roxelana* (Cramer, [1777])	12, 29, 31, 42	1	A, C, D
	26. *Lasiommata maera* (Linnaeus, 1758)	55, 61, 43, 35, 50, 54, 60, 63, 64	2	D, E, F, G
	27. *Lasiommata megera* (Linnaeus, 1767)	12, 13, 16,	1	A, B, D
	28. *Pararge aegeria* (Linnaeus, 1758)	17, 44	1	B, C
	29. *Coenonympha pamphilus* (Linnaeus, 1758)	49, 55, 56, 57, 45, 26, 51, 52, 53, 54, 60, 62, 63, 64, 67	8	D, E, F, G
	30. *Maniola telmessia* (Zeller, 1847)	7, 8, 9, 10, 12, 16, 17, 18, 19, 20, 61, 26, 29, 30, 31, 32, 33, 34, 35, 36, 39, 40, 68, 41, 42, 53, 54, 62, 63	17	A, B, C, D, E, F
	31. *Hipparchia mersina* (Staudinger, 1871)	28, 29, 32, 33, 35, 40, 41	5	C, D, E
	32. *Ypthima asterope* (Klug, 1832)	11, 12, 13, 18, 19	12	A, B
	33. *Thaleropis ionia* (Eversmann, 1851)	43	2	E
	34. *Aglais urticae* turcica (Staudinger, 1871)	22, 24	1	F, H
	35. *Nymphalis polychloros* (Linnaeus, 1758)	31, 42	1	D
	36. *Polygonia egea* (Cramer, [1775])	12, 22, 33, 51	3	A, E, F
	37. *Vanessa cardui* (Linnaeus, 1758)	2,3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 15, 16, 17, 18, 19, 20, 47, 61, 43, 65, 24, 25, 27, 29, 30, 34, 35, 36, 37, 39, 40, 68, 52, 54, 60, 62	1	A, B, C, D, E, F, G, H

Family	Taxon	Locality	NS	Al (m)
	38. *Vanessa atalanta* (Linnaeus, 1758)	2, 7, 8, 20, 43, 44, 22, 29, 36, 54, 60, 62	1	A, B, C, D, E, F
	39. *Limenitis reducta* Staudinger, 1901	30, 31, 40, 68, 41, 60	1	C, D, E
	40. *Argynnis niobe* (Linnaeus, 1758)	23	1	F
	41. *Argynnis pandora* (Denis & Schiffermüller, 1775)	22, 68, 51, 52, 53, 60, 62, 63	1	C, D, E? F
	42. *Issoria lathonia* (Linnaeus, 1758)	65, 22, 24, 25, 27, 28, 30, 32, 34, 36, 39, 68, 42, 51, 60	1	C, D, E, F, G, H
	43. Melitaea phoebe (Denis & Schiffermüller, 1775)	17, 18, 44, 30, 31, 68, 53, 54, 60	11	B, C, D, E
	44. *Melitaea ornata telona* Fruhstorfer, 1908	23, 28, 30, 40, 51, 60, 67	7	C, D, E, F, G
	45. *Melitaea collina* Lederer, 1861	45	1	E
	46. *Melitaea didyma* (Esper, 1778)	25, 51, 52, 60, 67	6	E, F, G
	47. *Melitaea trivia fascelis* (Esper, 1783)	11, 17, 65, 33, 34, 53, 60, 62	9	A, B, D, E
	48. *Melitaea arduinna* (Esper, 1783)	22	1	F
	49. *Melitaea cinxia* (Linnaeus, 1758)	24, 38, 51, 52, 60, 64, 67	11	E, F, G, H
Lycaenidae	50. *Satyrium ilicis* (Esper, [1779])	31, 11, 12, 40, 68	10	A, C, D
	51. *Satyrium spini* (Denis & Schiffermüller, 1775)	11, 12, 35, 36, 42	7	A, C, D, E
	52. *Callophrys danchenkoi* Zhdanko, 1998	64	2	E
	53. *Callophrys paulae* Pfeiffer, 1932	24	3	H
	54. *Callophrys rubi* (Linnaeus, 1758)	22, 23, 28, 33, 41, 67	3	E, F, G
	55. *Tomares nesimachus* (Oberthür, 1893)	24, 25, 27, 28	12	E, G, H
	56. Tomares nogelii (Herrich-Schäffer, 1851)	22, 33	4	E, F
	57. *Lampides boeticus* (Linnaeus, 1767)	1, 7, 8, 23, 24, 28, 29, 30, 31, 33, 35, 36, 54,	1	A, C, D, E, F
	58. *Tarucus balkanica* (Freyer, [1844])	8, 10, 13, 39	3	A, D
	59. *Zizeeria karsandra* (Moore, 1865)	2, 4, 12	2	A
	60. *Cupido minimus* (Fuessly, 1775)	22	1	F
	61. *Cupido osiris* (Meigen, 1829)	23, 25, 51, 52, 67	8	F, G
	62. *Glaucopsyche astraea* (Freyer, [1851])	67	1	G
	63. *Glaucopsyche lessei* Bernardi, 1964	17, 23, 33, 32	2	B, E, F
	64. *Iolana iolas* (Ochsenheimer, 1816)	8, 17, 18, 19, 49, 44, 45, 65, 22, 23, 25, 41, 51, 52, 67	8	A, B, C, E, F, G
	65. *Pseudophilotes vicrama* (Moore, 1865)	67	1	G
	66. *Pseudophilotes bavius egea* (Herrich-Schäffer,[1852])	22, 25, 40, 52	1	C, F, G
	67. *Aricia anteros* (Freyer, [1838])	42, 52, 64	4	D, E, F
	68. *Aricia agestis* (Denis & Schiffermüller, 1775)	8, 17, 50, 57, 65, 23, 25, 30, 31, 39, 40, 41, 51, 52, 53, 54	14	A, B, C, D, E, F, G

Family	Taxon	Locality	NS	Al (m)
	69. *Polyommatus antiochenus* (Lederer, 1861)	41, 38	5	E, G
	70. *Polyommatus bellis* (Freyer, [1842])	65, 22, 25, 33, 39, 41, 42, 51, 52, 53, 54, 60, 64	15	D, E, F, G
	71. *Polyommatus bellargus* (Rottemburg, 1775)	65, 23, 25, 39, 41, 42, 51, 52, 54, 60, 67	14	D, E, F, G
	72. *Polyommatus syriacus burak* Koçak, 1992	31	2	D
	73. *Neolysandra coelestina ponticus* (Courvoisier, 1911)	64, 67	8	E, G
	74. *Polyommatus amandus* (Schneider, 1792)	28, 42, 67	3	D, E, G
	75. *Polyommatus cornelia* (Freyer, [1850])	22, 24, 25, 35, 38, 41, 67	16	E, F, G, H
	76. *Polyommatus thersites* (Cantener, [1835])	23, 25, 39, 41, 51, 52, 60, 64	3	D, E, F, G
	77. *Polyommatus icarus* (Rottemburg, 1775)	3, 8, 17, 18, 19, 20, 50, 57, 55, 61, 65, 22, 25, 29, 30, 31, 34, 33, 32, 36, 37, 38, 39, 40, 41, 51, 52, 53, 54, 60, 62, 63, 64, 67	49	A, B, C, D, E, F, G
	78. *Freyeria trochylus* (Freyer, [1843])	11, 12, 40	4	A, C
	79. *Chilades galba* (Lederer, 1855)	11	2	A
	80. *Kretania sephirus* (Frivaldszky, 1835)	9, 22, 23, 25, 26, 30, 31, 33, 32, 35, 38, 40, 41, 42, 52, 67	13	A, C, D, E, F, G
	81. *Plebejus argus* (Linnaeus, 1758)	52, 64	5	E, F
	82. *Lycaena alciphron melibaeus* (Staudinger, 1878)	22, 23	1	F
	83. *Lycaena tityrus* (Poda, 1761)	22, 25, 64	1	E, F, G
	84. *Lycaena asabinus* (Gerhard, [1850])	24, 25, 28	1	E, G, H
	85. *Lycaena ochimus* (Herrich-Schäffer, [1851])	23, 41, 51, 64	5	E, F
	86. *Lycaena thersamon* (Esper, [1784])	22	2	F
	87. *Lycaena phlaeas* (Linnaeus, 1761)	2, 11, 12, 17, 19, 49, 56, 61, 43, 44, 65, 22, 23, 24, 27, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 40, 42, 51, 52, 54, 60, 63, 64	9	A, B, C, D, E, F
Hesperiidae	88. *Carcharodus orientalis* Reverdin, 1913	8,12, 22, 25, 36, 60, 67	6	A, D, E, F, G
	89. *Carcharodus alceae* (Esper, [1780])	8, 17, 25, 30, 31, 36, 63	7	A, B, C, D, F, G
	90. *Erynnis tages* (Linnaeus, 1758)	24, 25, 51, 52, 64	4	E, F, G, H
	91. *Muschampia nomas* (Lederer, 1855)	31	2	D
	92. *Muschampia proto aragonensis* (De Sagarra, 1924)	31	1	D
	93. *Muschampia tessellum* (Hübner, [1802])	31, 39, 40, 68, 41	3	A, C, D
	94. *Pyrgus armoricanus persicus* (Reverdin, 1913)	22, 25, 31, 39, 68, 41, 51, 52, 53	11	C, D, E, F
	95. *Pyrgus melotis melotis* (Duponchel, [1834])	8, 12, 49, 47, 57, 44, 45, 28, 54	9	A, C, D, E, F
	96. *Pyrgus melotis ponticus* (Reverdin, 1914)	65, 67,	2	E, G
	97. *Pyrgus serratulae major* (Staudinger, 1878)	67	1	G
	98. *Pyrgus sidae* (Esper, [1784])	22, 23, 52	3	F

Family	Taxon	Locality	NS	Al (m)
	99. *Spialia orbifer* (Hübner, 1823)	8, 11, 12, 61, 22, 23, 25, 26, 30, 31, 32, 33, 35, 36, 38, 39, 41, 42, 51, 52, 53, 54, 60, 62, 63, 67	27	A, C, D, E, F, G
	100. *Gegenes nostrodamus* (Fabricius, 1793)	11	1	A
	101. *Gegenes pumilio* (Hoffmannsegg, 1804)	8, 11, 12, 17, 18, 19, 31	12	A, B, D
	102. *Pelopidas thrax* (Hübner, [1821])	8, 12, 13	3	A
	103. *Thymelicus acteon* (Rottemburg, 1775)	33	1	E
	104. *Thymelicus sylvestris syriacus* (Tutt, [1905])	8, 26, 31, 33, 34, 36, 40, 42	5	A, C, D, E

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Macaria artesiaria terug waargenomen in België (Lepidoptera, Geometridae)

Lucien De Ridder

Samenvatting. Op 18 juli 2018 werd in Grobbendonk (provincie Antwerpen) op licht opnieuw een exemplaar gevangen van *Macaria artesiaria* (Denis & Schiffermüller, 1775). De vorige en tot dan toe enige waarneming van deze soort in België dateerde reeds uit 1951. Ter verificatie werd eveneens een genitaalpreparaat gemaakt.

Abstract. On 18 July 2018 a specimen of *Macaria artesiaria* (Denis & Schiffermüller, 1775) was captured at Grobbendonk (province of Antwerp) on light. The first and only observation of this species in Belgium dates back to 1951. The determination has been confirmed by preparation of the genitalia.

Résumé. Le 18 juillet 2018 un exemplaire de *Macaria artesiaria* (Denis & Schiffermüller, 1775) a été capturé à la lumière à Grobbendonk (province d'Anvers). La première et unique observation de cette espèce en Belgique datait déjà de 1951. La détermination est confirmée par une préparation des genitalia.

Key words: *Macaria artesiaria* – Faunistics – Belgium.

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Inleiding

Op 18 juli 2018 werd bij een nachtvangst met een lichtval een spanner waargenomen die niet direct op naam te brengen was. Hoewel nogal afgevlogen, was de tekening nog voldoende herkenbaar om het exemplaar na enig zoeken aan de hand van beschikbare afbeeldingen in de literatuur en op internet (Lepiforum.de 2019) te identificeren als de wilgenspanner *Macaria artesiaria* (Denis & Schiffermüller, 1775). Maar aangezien de soort al 67 jaar niet meer in België was waargenomen, werd ter bevestiging een genitaalpreparaat gemaakt (LDR 680♂).

Uiterlijk

Macaria artesiaria onderscheidt zich als vlinder van de andere soorten uit het genus door de tekening op de voorvleugels. De voorvleugels zijn meestal bruin besprenkeld, hebben een donkere middenvlek en een bandvormige middenschaduw. Binnenste en middelste dwarslijn zijn aanwezig. De aders zijn lichter, vaak geelachtig gekleurd. Meest opvallend is de helle, bijna rechte dwarslijn, die afgeboord wordt met donkere randen. Aan de buitenzijde ervan is een brede schaduw, die ongeveer in het midden, tussen de splitsing van de hoofdader een lancetvormige, oranjebruin getinte vlek heeft. Bij de nauwst verwante *Macaria ichnusae* Govi & Fiumi, 2005 is deze schaduw zwaarder en treedt de vlek in de richting buitenrand meestal duidelijk buiten de schaduw. De soort is ook kleiner en bovendien endemisch in Sardinië.

Fig. 1. *Macaria artesiaria* (Denis & Schiffermüller, 1775) ♂, Grobbendonk (AN), 19.vii.2018, © L. De Ridder (1 schaalonderdeel = 1 mm).

Biologie

De groene spanrups heeft op de rug een aantal geelwitte langsstrepen die afgezoomd worden met dunne donkerder groene lijntjes. Aan de zijkanten is er over de ganse lengte een brede gele streep (Lepiform.de 2019).

Als voedselplant wordt door verschillende auteurs alleen "wilg" vermeld, maar niet alle wilgensoorten worden door de rups aanvaard: om het aantal jaarlijkse

generaties vast te stellen werden bij kweekexperimenten gladbladige en ruwbladige wilgen getest (Haeger 1965). De rupsen aanvaardden enkel de gladbladige. In de studie werden deze wilgensoorten echter niet verder op naam gebracht. Zekere voedselplanten zijn *Salix repens* (Kruipende wilg) en *Salix phylicifolia* (Groene wilg) (Skou & Sihvonen 2015). In Duitsland werd de rups ook aangetroffen en gekweekt op *Salix cinerea* (Grauwe wilg) (Lepiforum.de 2019). Kruipende wilg en Grauwe wilg komen langs de Kleine Nete voor in de omgeving van Grobbendonk volgens Waarnemingen.be 2019.

De soort overwintert als ei. De rupsen verschijnen in mei en juli-augustus. Verpopping volgt in de aarde.

De vlinder heeft twee generaties: half juni–juli en midden augustus–september. In het noorden van het verspreidingsgebied is er slechts één generatie, maar in het zuiden begint de vliegtijd vroeger.

Verspreiding

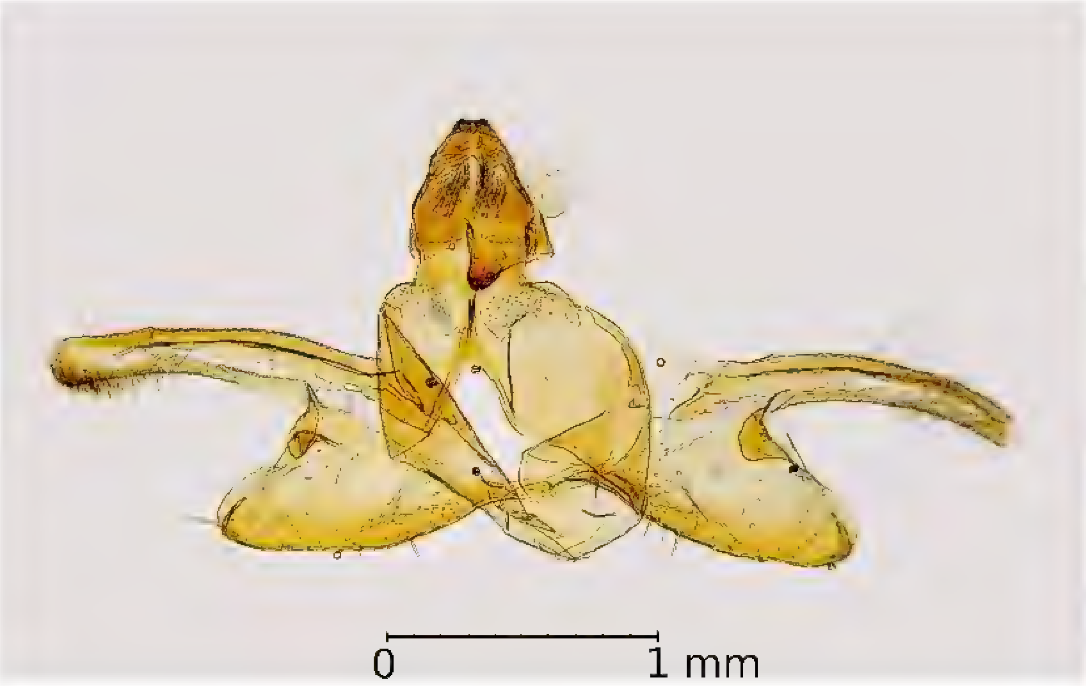
De vlinder komt voor van Siberië en zuid-Finland in het noorden tot Spanje, Portugal, het Italiaanse vasteland en Noord-Griekenland in het zuiden.

In België was er tot nu toe slechts één exemplaar van de soort waargenomen. Het werd op licht gevangen 16.vii.1951 in Loën, Montagne Saint-Pierre bij Visé, provincie Liège als *Diastictis artesiaria* (De Laever 1952). Allicht is het huidige exemplaar een inwijkeling, maar toch loont het de moeite om bijkomende aandacht te besteden aan de soort in de rivierbekkens van de Nete en de Maas in de provincies Antwerpen, Limburg en Luik, waar de voedselplanten zeker voorkomen.

In Nederland wordt de soort als zeer zeldzaam vermeld (Vlinderstichting 2019). De laatste waarneming dateert er uit 1982. De soort is gesignaleerd in grote delen van Frankrijk, vooral echter in Midden-Frankrijk en de oostelijke departementen (Lepi'Net.fr 2019). In Duitsland komt ze voor in Rheinland-Pfalz en de oostelijke deelstaten en zeer lokaal in enkele andere deelstaten als Nordrhein-Westfalen en Bayern (Schmetterlinge-d.de 2019, Koch 1976, Forster & Wohlfahrt 1981).

Genitalia

De verschillende *Macaria*-species hebben vrij gelijkende genitalia (Skou & Sihvonen 2015). Het mannelijk genitaal vertoont kleine verschillen in uncus, valven en aedeagus. Figuren 2a en 2b tonen het genitaal van het recente exemplaar uit Grobbendonk (LDR 680), vesica uitgestulpt maar niet volledig opengeplooid. Belangrijk determinatiekenmerk is ook de inkeping van de rand van het 8^{e} sternum (Fig. 3). In het vrouwelijk genitaal zijn vooral de zone rond het ostium belangrijk en het signum in de bursa.



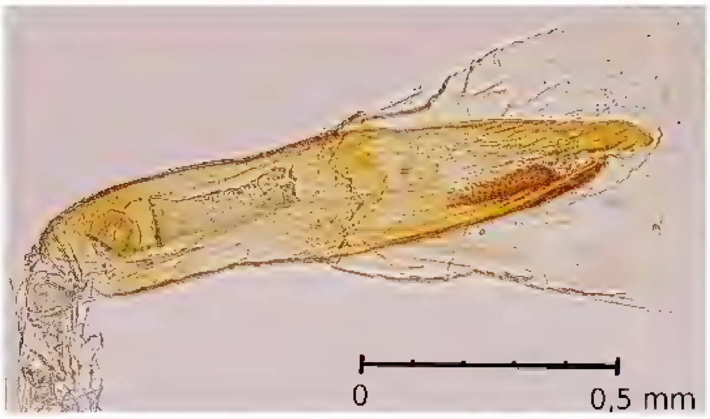


Fig. 2a. *Macaria artesiaria* (Denis & Schiffermüller, 1775), Grobbendonk (AN), 19.vii.2018, ♂ - genitaal, gen.prep. 680, © L. De Ridder.

Fig. 2b. idem, aedeagus, gen.prep. 680, © L. De Ridder.

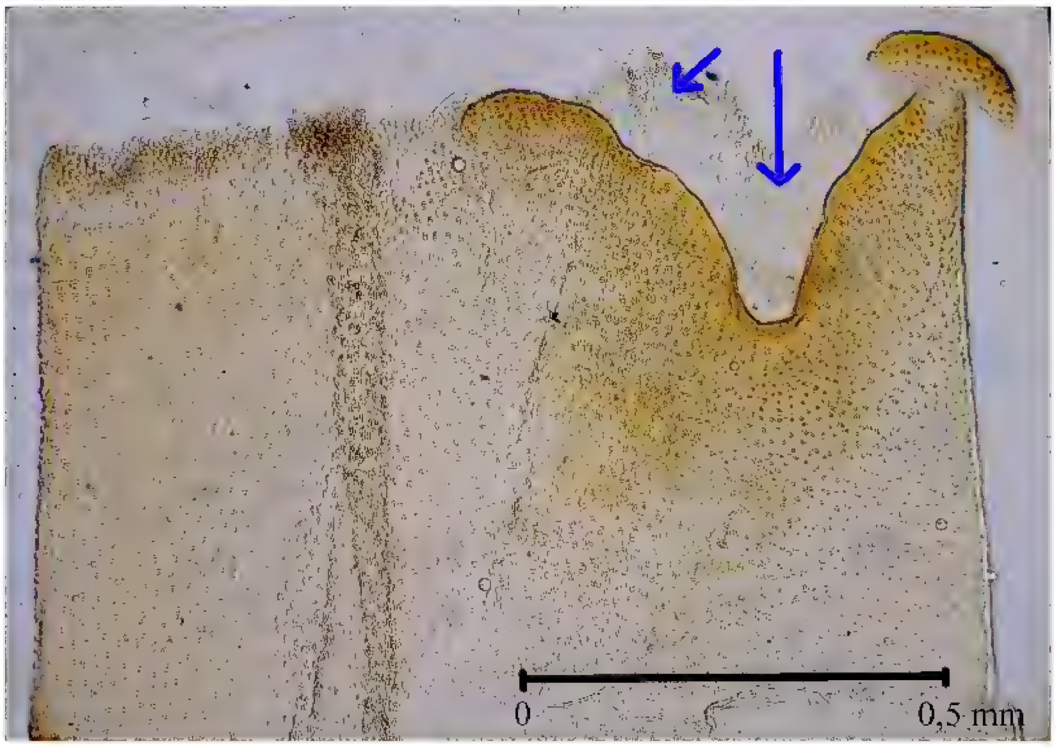


Fig. 3. idem, vorm ♂ 8e-sternum, gen.prep. 680, © L. De Ridder.

 ISSN 0771-5277

Dankwoord

Mijn dank gaat uit naar Willy en Guido De Prins en Chris Steeman voor hun hulp en informatie.

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Confirmation of the presence of *Zizeeria karsandra* (Lepidoptera, Lycaenidae) on Rhodes Island, Greece

Matt Berry & Sotiris Alexiou

Abstract. The rediscovery of the butterfly *Zizeeria karsandra* (Moore, 1865) on the island of Rhodos, Greece, 60 years after its first observation, is presented.

Samenvatting. De herontdekking van de vlinder *Zizeeria karsandra* (Moore, 1865) op het eiland Rhodos, Griekenland, 60 jaar na zijn eerste observatie, wordt gepresenteerd.

Résumé. La redécouverte du papillon *Zizeeria karsandra* (Moore, 1865) sur l'île de Rhodos, en Grèce, est présentée 60 ans après sa première observation.

Key words: *Lycaenids* – Faunistics – Observation record.

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Introduction

Zizeeria karsandra (Moore, 1865) (Lycaenidae) is a minute lycaenid butterfly occurring on the north coast of Africa (E. Algeria, Tunisia and Libya), SE Turkey, Cyprus, Malta and Greece (Rhodos and Kriti) reaching southern Asia and Australia (Makris 2003).

Fig. 1. *Zizeeria karsandra* on the ground, Rhodos, 7st November 2019. © Matt Berry.

A long lasting and troubling controversy over its actual presence in Greece (and Europe) was settled only very recently. The species was mentioned for the first time for Greece by Beuret (1955), with two specimens collected from two different locations on the south side of the island of Kriti (Crete) (Anastassiu *et al*. 2010). The species was also reported from the island of Rhodos by Bender (1963), without voucher specimen. Later, Pamperis confirmed the record from Kriti, based on photographic material (Pamperis 1997, 2009). Despite Rhodos being rather well explored for lepidoptera, all searches for *Z. karsandra* turned out negative and no other record exists for Rhodos since. To make things more problematic, Anastassiu *et al*. (2010), after dozens of trips to Kriti were not able to confirm its presence there and comment that 'the existence of this species in Greece is highly improbable' and Pamperis's observations from Kriti are 'puzzling'. The case of the presence of *Z. karsandra* on Rhodos was equally doubted. Cuvelier & Mølgaard (2012), summarising the butterfly records of Dodecannisos islands, while arguing that a confirmation for Kriti is needed 'from an independent source', conclude that the presence of the species on Rhodos is 'very doubtful'. Only very recently, Rowings & Cuvelier (2018), reconfirmed Pamperis's observations from Kriti, putting an end to this unfortunate situation and Viborg (2019) presented voucher specimens and additional information. Our observations from the island of Rhodos conclusively confirm the presence of *Z. karsandra* in Greece.

Results

On November 1st, 2018, on the NE side of Rhodos Island, a small population of *Zizeeria karsandra* was observed, photographed and identified in the field by M.B. Only two individuals were seen, flying or on the ground. On a second visit, one week later, members of the same population were again on the wing. Due to the low number of observed individuals, no specimen was removed from the population and no exact coordinates are provided. *Zizeeria karsandra* was flying with individuals of *Chilades trochylus* (Freyer 1845). On November 7th and 8th 2019, under favourable climatic conditions of sunshine and 24ºC, M.B. visited again the location and observed one female laying eggs on a seedling of an unidentified plant species. More than that, an additional individual that could be a member of a different (sub-)population, was observed in a location 4.5 km further north.

Discussion

The presence of *Z. karsandra* on the island of Rhodos is confirmed, 50 years after the first observation of Bender at 1958. Cuvelier & Mølgaard (2012) provided an updated overview of the butterflies of the Dodecannisos islands, counting 50 verified records for Rhodos. Galanos (2014)

adds two more species rising the number to 52 and our record rises the number to 53.

Fig. 2. Habitat of *Zizeeria karsandra*, Rhodos, 23rd November 2018. © Matt Berry.

More than that, the presence of *Z. karsandra* in Greece and in Europe, should now be considered firmly confirmed, with known populations occurring in two Aegean islands, Rhodos and Kriti. Two main factors led to the doubt of the records of *Z. karsandra* in Greece. Firstly, there was a lack of voucher specimens, except Beuret's from Kriti, for which a case of mislabelling has been suspected by Anastassiu *et al.* (2010). Pamperis's attitude in presenting his records through a photograph or giving obscure localities, refusing to ever collect any specimens can understandably lead to questions concerning the credibility of some of his records. Although we understand how such a stand can generate unease, we acknowledge Pamperis's position.

Another factor which has made the doubt of the species occurrence on the Aegean islands understandable to a certain degree is the biogeographic factor. *Zizeeria karsandra* is absent from the area of SW Anatolia (Turkey), while being very common on Cyprus and SE Anatolia (Makris 2003). Should the species be present on Rhodos and Kriti, then a distributional gap of several hundred kilometres between the two Aegean islands and the core area of the species would be created, which for a lowland species like *Z. karsandra* would be highly problematic (Anastassiu *et al*. 2010, Cuvelier & Mølgaard 2012).

The Greek populations of *Z. karsandra* are very isolated from the core distribution area of the species in the Middle East. The newly discovered population on the island of Rhodos should be targeted for long term conservation, regarding threats and protection. The preliminary studies on the biology of the population of Kriti (Rowlings & Cuvelier 2018, Viborg 2019) indicate a complex biological cycle with many generations per year, dispersal events triggered by unfavourable climatic conditions (lack of moist ground, absence/presence of green plants, etc.). This is most probably the reason why, on several visits made during the present year in spring and summer, we were not able to locate any adults of the Rhodos population. Further research should be undertaken to study in detail the biological cycle of *Z. karsandra* on the two Aegean islands.

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A thriving colony of *Melitaea aurelia* recorded in the Greek part of the Rodhópi Mts., and an important note on female identification based on genitalic features (Lepidoptera: Nymphalidae, Melitaeinae)

Hrístos T. Anastassíu & John G. Coutsis

Abstract. A well-established colony of *Melitaea aurelia* is recorded here for the first time by the first author from the Greek part of the Rodhópi Mts. Identifications were carried out by the second author, those of males based on hitherto well-known genitalic characters and those of females by a set of new characters in combination with previous genitalic finds carried out by Urbahn (1952).

Samenvatting. Een goed gevestigde populatie van *Melitaea aurelia* wordt hier door de eerste auteur voor het eerst vermeld van het Griekse deel van Rodopegebergte. De tweede auteur voerde de determinaties uit, die van de mannetjes gebaseerd op tot nu toe bekende genitaaleigenschappen en die van de vrouwtjes door een aantal nieuwe eigenschappen gecombineerd met eerdere genitaalstudies uitgevoerd door Urbahn (1952).

Résumé. Une colonie bien établie de *Melitaea aurelia* est enregistrée ici pour la première fois de la partie grecque des Rhodopes par le premier auteur. Les identifications ont été effectuées par le deuxième auteur, celles des mâles sont basées sur des caractères génitaux connus jusqu'à présent et celles des femelles par un ensemble de caractères nouveaux en combinaison avec les études précédentes des génitales, effectuées par Urbahn (1952).

Key words: *Melitaea athalia* – Greece – Flórina – Female genital appendages – Species differentiation.

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Introduction

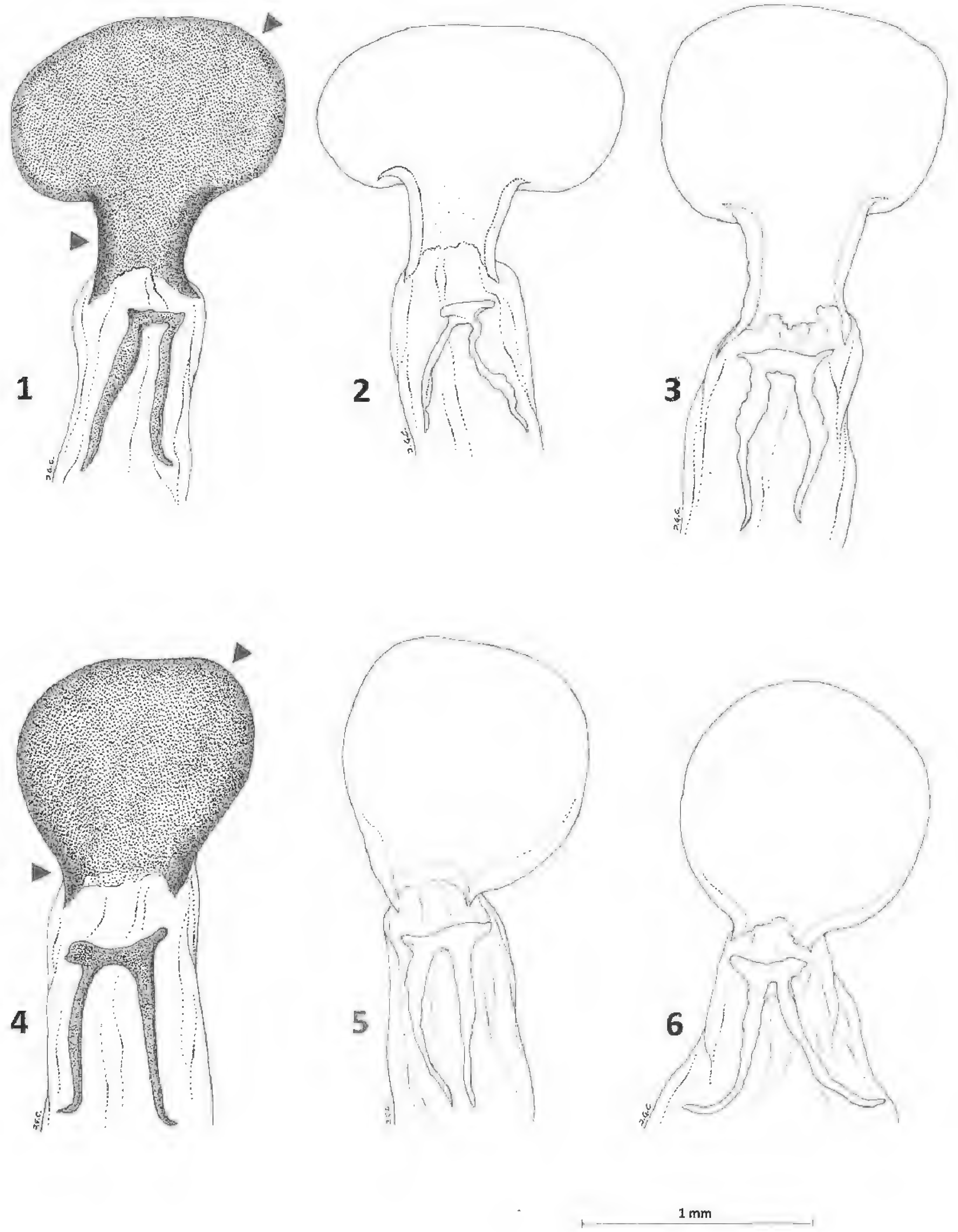
Melitaea aurelia Nickerl, 1850 has reliably been recorded so far on Greek soil in the Flórina Prefecture of N.W. Greece (van der Poorten & Cuvelier 1997), as well as in the Rodhópi Mts. of N.E. Greece (Ghavalás *et al*. 2015), all identifications having been based on the morphology of its male genitalia. In the Rodhópi Mts. a few males have been sporadically met along the Greco/Bulgarian border, suggesting occasional infiltration from Bulgarian soil. More recently, however, a rather extensive mixed population of both genders was discovered by the first author of the present paper in the Greek Rodhópi Mts., and several km away from the Greco-Bulgarian border (Map, Fig. 7), clearly pointing to the existence in Greece of well-established colonies. The newly discovered habitat is characteristically much drier than average in the Greek part of the Rodhópi range (Fig. 8). Females were reliably determined by the second author by newly discovered set of genitalic characters in combination with previously reported characters of female genitalia carried out by Urbahn (1952). Older records of *M. aurelia* from the Rodhópi Mts. by Tolman & Lewington (1997), repeated in Coutsis & Ghavalás (2001), were all based on wing characters which are not always reliable for identification, and perhaps on larval characters as well, as Tolman was a known early-stage breeder.

Differentiation of the females of *M. aurelia* from those of other members of the species-group

The first attempt at making this differentiation was carried out by Urbahn (1952) who, studying the female genitalia, discovered character differences between the antevaginal plates of *M. aurelia*, *M. athalia* (Rottemburg, 1775) and *M. britomartis* Assmann, 1847 – three often mutually confused with each-other species – albeit admitting at the same time that these differences may not always be 100% reliable. Koren & Juković (2012) also doubt the reliability of these features. Higgins (1955) on the other hand figured the complete female genitalia of these three species, but his figures are rather too sketchily drawn to enable one to draw conclusions from them, and the pertinent script does not refer to any differentiating female genitalic characters between them. Even though he was well-aware of Urbahn's article, as attested by its inclusion in the reference list of his relevant paper, he makes no mention of it anywhere else in the script. A study of a large number of females of Greek *M. aurelia* and *M. athalia* carried out by the second author confirmed much of Urbahn's finds and in addition revealed the following:

M. aurelia: antevaginal plate always roughly **elliptical**, followed proximally by a **long** ductus bursae (Figs 1–3).

M. athalia: antevaginal plate always roughly **circular**, followed proximally by a **very short** to **imperceptible** ductus bursae (Figs 4–6).



Figs. 1–6. Ventral aspect of antevaginal plate together with ductus bursae and distal end of corpus bursae of female *Melitaea* specimens from Greece, Makedhonía. **1–3.** *M. aurelia*, Rodhópi Mts., Stámna, 1300 m, 18.vii.2019. **1.** Prep. no. 5883. **2.** Prep. no. 5880. **3.** Prep. no. 5882. **4–6.** *M. athalia*. **4.** Rodhópi Mts., 1300 m, 8.vii.1990, prep. no. 5885. **5.** Rodhópi Mts., Vathírema, 1500 m, 19.vii.2018, prep. no. 5886. **6.** Mt. Vóras (= Kaimáktsalan), 1000 m, 9.vii.2004, prep. no. 5884.

Note: The only elements shown here are the antevaginal plate, the ductus bursae and the distal end of the corpus bursae, all other genital components, either attached or not to these elements, have been omitted.

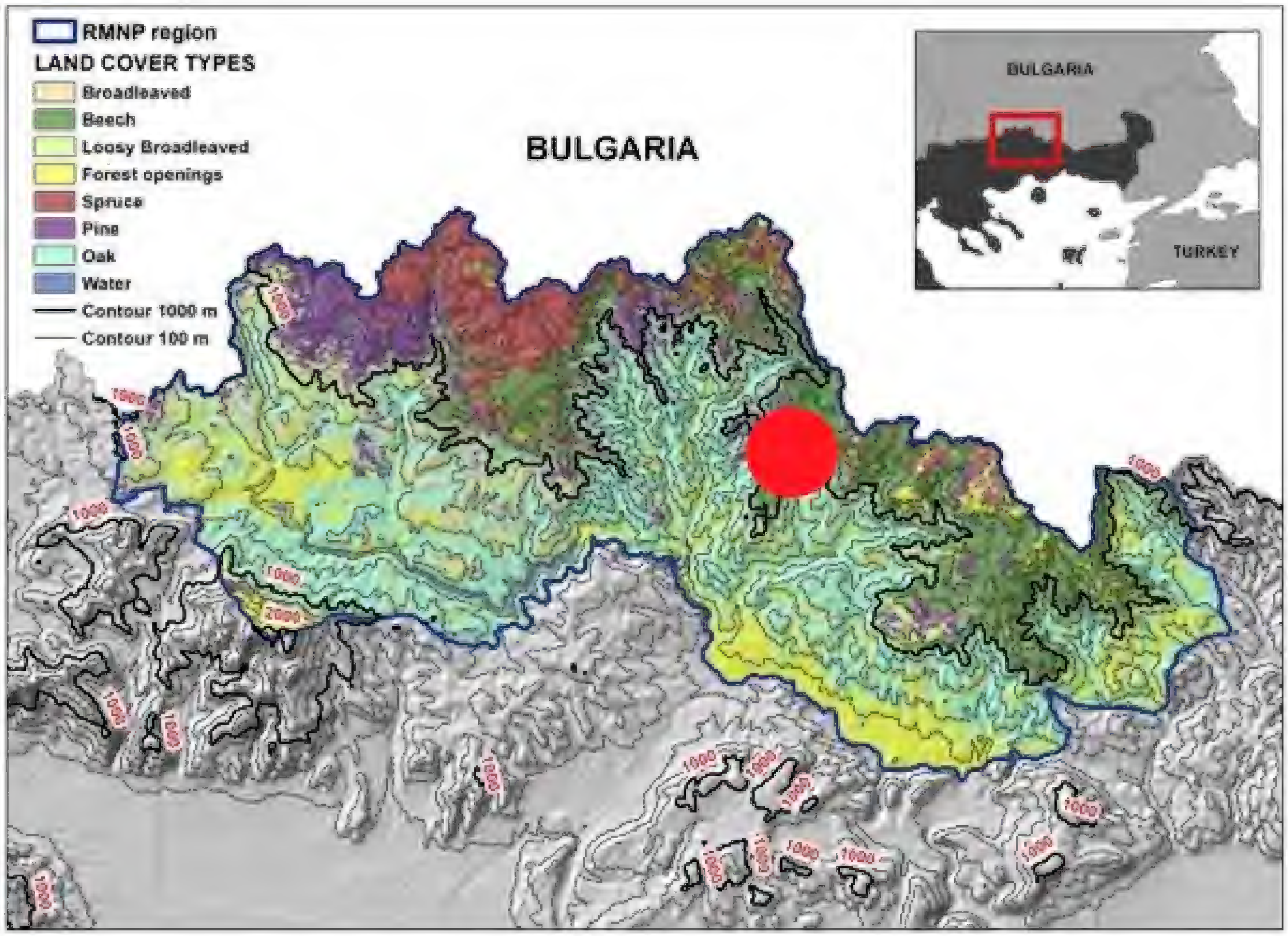


Fig. 7. Map showing exact location (red-filled circle) of *M. aurelia* colony in the Rodhópi Mts., in Greece. Source: https://www.sciencedirect.com/science/article/pii/S2351989418304268#bib37 accessed on 10.x.2019.

Discussion

With the available now genitalic information at hand it will become feasible to trace in the future and in more detail the distribution of *M. aurelia* in N. Greece, and to check also the possibility of the parallel existence in Greece of *M. britomartis*, a species not included in our study for lack of any hitherto reliable records from this country.

Fig. 8. Habitat of *Melitaea aurelia* in Greece, Rodhópi Mts., Stámna. © H. T. Anastassíu.

Fig. 9. Female *Melitaea aurelia* in Greece, Rodhópi Mts., Stámna. © H. T. Anastassíu.

A recent survey of the distribution of all three of these species in the N.W. Balkans is given by Koren & Juković (2012), identifications of both genders having been carried out on the basis of genitalic character differences as defined in previous works. The apparent syntopism shown for *M. aurelia* and *M. britomartis* near the southern limit of their distribution in this geographic area suggests, however, that the latter might eventually also be found further south, probably even penetrating into Greek territory.

Acknowledgments

We would like to thank Zdravko Kolev for his invaluable criticism and comments, as well as for kindly bringing to our attention two important articles that we were unaware of, namely that of Urbahn (1952) and of Koren & Juković (2012), both dealing in part with the same subject as ours.

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Preliminary note on the range expansion of *Papilio demoleus* (Lepidoptera: Papilionidae) in south-eastern Turkey, and on the first documented arrival of this invasive species at the Mediterranean coast of Syria

Onat Başbay, Mudar Salimeh & Eddie John

Abstract. The aim of this short note is to summarise recent reports of the extensive spread of *Papilio demoleus* in south-eastern Turkey and in regions adjacent to the north-eastern Mediterranean. *P. demoleus*, a papilionid of Oriental origin, is recognized in some Citrus-growing areas of the world as an invasive pest species and hence its arrival is of potential economic importance.

Samenvatting. Het doel van deze korte nota is om de recente waarnemingen van de verspreiding van *Papilio demoleus* in Zuidoost-Turkije en in de aanpalende noordoostelijke mediterrane gebieden samen te vatten. *P. demoleus*, een Papilionidae van oriëntaalse oorsprong, wordt in sommige citrus-kwekerijen van de wereld beschouwd als een invasieve pestsoort en dus heeft de komst van deze soort mogelijk een economische betekenis.

Résumé. Le but de cette petite note est de résumer les rapports récents de la distribution de *Papilio demoleus* dans le sud-est de la Turquie et dans les régions limitrophes au nord-est de la région méditerranéenne. *P. demoleus*, un papilionide d'origine orientale, est reconnu dans certaines régions productrices de citrus du monde comme une espèce invasive nuisible et, par conséquent, son arrivée présente une importance économique potentielle.

Key words: *Citrus* – New records – Alien Invasive Species – Mediterranean region.

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Introduction

The first record of *Papilio demoleus* Linnaeus, 1758 (TL: Canton, China) in Turkey was reported by Koçak *et al.* (2006), prior to which the closest known record to Turkey (and Syria) was from Hillah in Iraq's central plain (Wiltshire 1957: 19). The first Turkish record of *P. demoleus* (otherwise known as the Lime or Chequered Swallowtail) was from Nusaybin, Mardin Province, a border village to that of Kameshli (Al Quamishli) in Syria. Based on proximity, this Turkish record was also assigned to the Syrian fauna by Koçak *et al.* (2006), although no actual observations of the species were made there. Benyamini *et al.* (2007) reported the finding of *Papilio demoleus* in the central Syrian city of Palmyra, noting this as the first confirmed presence of *demoleus* in Syria. The Nusaybin record was stated as the only known location for the species in Turkey by Koçak *et al.* (2006), a situation that appears to have persisted until at least 2008 (Kemal *et al.* 2008).

Observations in the current decade

Subsequently, however, in 2012 and 2014 *Papilio demoleus* was observed in small numbers at Ceylanpınar (Şanlıurfa Province, Turkey), a location 100 km east of Nusaybin (Kesran 2016). Since then, the authors of this article have been investigating possible new locations for the species in an attempt to determine the degree of expansion of *P. demoleus* (Fig. 1) in the region. From these studies, it is clear that *P. demoleus* is extending its range, not only by moving westwards as anticipated along the Syria–Turkey border, but also in an easterly direction where suitable climate and habitat conditions permit. A northerly movement in Turkey is not predicted due to unsuitable climatic conditions, higher topo-graphical elevations and a lack of *Citrus* trees required as food plant for the caterpillar of the species.

In parallel to the studies in Turkey, observations in Syria were undertaken simultaneously and here we report that, as in Turkey, *P. demoleus* is extending its distribution in Syria, but considerably more extensively. However, it should be pointed out that opportunities for research in border areas are severely restricted due to this being a conflict zone. Our studies have confirmed the presence of *P. demoleus* in the Latakia Mountains of western Syria, with numerous later observations of the butterfly and its early stages in *Citrus* groves along the Mediterranean coast of Syria.

As well as being of interest (in that they demonstrate further evidence of climate change), these observations are of potential economic importance due to the recognized status of *P. demoleus* as an invasive pest species (CABI Datasheet 2018). A paper, currently in preparation by the authors of this brief account, will discuss and illustrate these findings in greater detail when our investigations are further advanced.

Fig. 1. *Papilio demoleus,* Mardin Turkey, 2.11.2018. © Onat Başbay.

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Reflectie

Ontmoeting met de walstropijlstaart (*Hyles gallii* Rottemburg, 1775) in 2018

Frans Melkert

Melkert F.: Sint-Adelbertabdij, Abdijlaan 26, 1935 BH Egmond-Binnen, Nederland.

Een woord vooraf (door Willy Troukens):

De auteur, Frans Melkert (fig. 1. A), sloot zich in 1955 als broeder aan bij de Benedictijnen in de Sint-Adelbertabdij van Egmond-Binnen (NL). Reeds in zijn kleuterjaren ontlook bij hem een grote liefde voor vlinders. In de loop der jaren werd, door zijn toedoen, de kloostertuin deels omgetoverd tot een riant vlinderparadijs met tal van attractieve nectarplanten. Zijn waarnemingen worden trouw bezorgd aan De Vlinderstichting. Verder onderhoudt hij regelmatig contacten met vlinderliefhebbers in binnen- en buitenland. In het Nederlands taalgebied staat broeder Frans sinds lang bekend als “de vlindermonnik”. Van zijn hand verscheen in *Phegea* (2016: 23–24) al een merkwaardig artikel over zijn ontdekking van het geel oranjetipje, *Anthocharis cardamines* ab. *aureoflavescens* Cockerell. Het nu volgend artikel gaat over zijn verrassende waarnemingen van de walstropijlstaart in de kloostertuin.

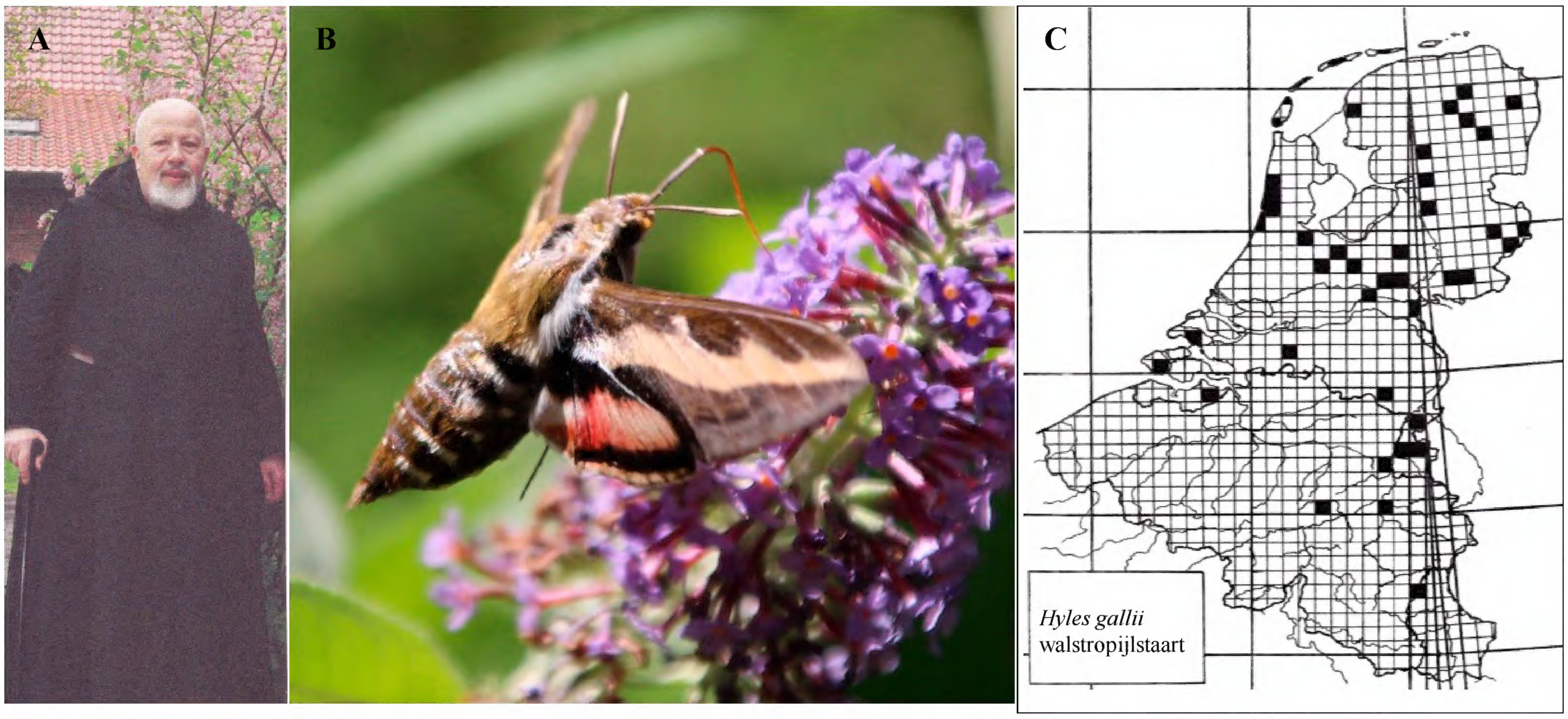

Fig. 1. A. Broeder Frans Melkert, alias De Vlindermonnik; B. *Hyles gallii* (Rottemburg, 1775). Egmond-Binnen (NL), 03.viii.2018 (© Anna Bernhard); C. Vindplaatsen van *Hyles gallii* (Rottemburg, 1775) in België en Nederland in 2018 op een 10x10 km UTM hokkaart. Bronnen: Waarnemingen.be en Waarneming.nl.

Broeder Frans Melkert vertelt:

Op 27 juli 2018 was het tropisch warm. Omstreeks 11 uur zag ik in onze kloostertuin te Egmond-Binnen (NL) rond de paarse bloemtrossen van *Buddleia* een walstropijlstaart fladderen. Hij bleef nog circa 10 minuten ter plaatse foerageren. Na de middag zat ik weer op dezelfde locatie, samen met een dame die een camera droeg. Wij waren blij verrast toen wij de pijlstaart opnieuw te zien kregen. Nu konden er ook foto’s gemaakt worden. Het was toen zowat 15 uur.

Diezelfde avond liet een medebroeder mij een filmpje zien. Hierop was een foeragerende vlinder te zien die hij eerder op de dag had gefilmd. Het bleek “mijn” walstropijlstaart te zijn. Ik zag hem fladderen rond een buddleiastruik met roze bloemen, op enkele meters van de plek waar ikzelf de vlinder voor het eerst had gezien. Ik veronderstelde dat het hier steeds om dezelfde vlinder ging.

De volgende dag toonde een medebroeder mij een totaal afgevlogen walstropijlstaart en pas toen besefte ik dat er méér exemplaren moesten rondvliegen. Dat klopte inderdaad, want ’s avonds zag een andere medebroeder liefst vijf exemplaren foerageren op zeepkruid (*Saponaria*). Het was toen 20.30 uur, nog volop licht, maar het begon toch al zwak te schemeren. De medebroeder nam rustig de tijd om er met zijn smartphone een filmpje van te maken. Daarop was goed te zien dat er minstens twee exemplaren rondfladderden. Ook de volgende dagen waren de vlinders rond 20.30 uur telkens weer te bewonderen op het zeepkruid.

Op 3 augustus, toen de fotografe weer op bezoek was, zagen wij overdag in de zonneschijn twee walstropijlstaarten samen foerageren op *Buddleia’s* van

verschillende kleuren. Ook daarvan werden enkele foto's gemaakt (fig. 1. B). Eerder op de dag, zo rond 14 uur, had de fotografe ook al een exemplaar opgemerkt.

De laatste waarneming gebeurde op 6 augustus en die leverde nog een mooi filmpje op. De vlinder foerageerde op het zeepkruid naast een paadje zodat wij hem van heel dichtbij konden observeren. Het zeepkruid raakte de volgende dagen uitgebloeid. De vlinders zochten waarschijnlijk andere oorden op om te foerageren. Opmerkelijk is dat in onze kloostertuin de waardplanten van de rups ontbreken, nl. walstro (*Galium*), wilgeroosje (*Epilobium*) en *Fuchsia*. De vlinders kunnen zich alleen maar ontwikkeld hebben in de naburige duinen waar het walstro wél groeit. Dit was de tweede keer dat wij hier walstropijlstaarten op bezoek kregen. De eerste keer gebeurde dat op zondag, 24 augustus 2003, zo rond 19 uur. Ook toen foerageerden de vlinders op zeepkruid. In 2018 werden in Nederland 64 exemplaren geteld in 51 lokaliteiten (Waarneming.nl); in België slechts 4 exemplaren in 4 lokaliteiten (Waarnemingen.be) (fig. 1C).

Al deze waarnemingen hebben nog eens bevestigd dat de walstropijlstaart vrijwel op alle uren van de dag kan waargenomen worden. Daarmee kunnen wij hem klasseren bij de dagactieve pijlstaartvlinders, net zoals de kolibrievlinder, *Macroglossum stellatarum* (Linnaeus, 1758) en de glasvleugelpijlstaart, *Hemaris fuciformis* (Linnaeus, 1758).

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Korte mededeling

Podagrica fuscipes (Fabricius, 1775) in België (Coleoptera: Chrysomelidae)

Willy Troukens

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Het artikel over de stokroosaardvlo, *Podagrica fuscicornis* (Linnaeus, 1767) (Troukens 2018: 70–72), motiveerde enkele keverkenners om op zoek te gaan naar de zwartpotige verwant, *Podagrica fuscipes* (Fabricius, 1775). Jean-Yves Baugnée observeerde op 15.vi.2018 een 10-tal exemplaren te Boutonville nabij Chimay (HA). De kevertjes zaten in een hooiweide op muskuskaasjeskruid (*Malva moschata*) (Fig. 1).

Fig. 1. *Podagrica fuscipes*. Boutonville (HA), 15.vi.2018. © Jean-Yves Baugnée.

Muskuskaasjeskruid komt plaatselijk algemeen voor ten zuiden van Samber en Maas maar is elders zeldzaam. Toch kan *P. fuscipes* in mei-juni nog op andere waardplanten gevonden worden. Rheinheimer & Hassler (2018: 703–704) noemen, behalve muskuskaasjeskruid, ook nog vijfdelig kaasjeskruid (*Malva alcea*), groot kaasjeskruid (*Malva sylvestris*), stokroos (*Alcea rosea*) en echte heemst (*Althaea officinalis*).

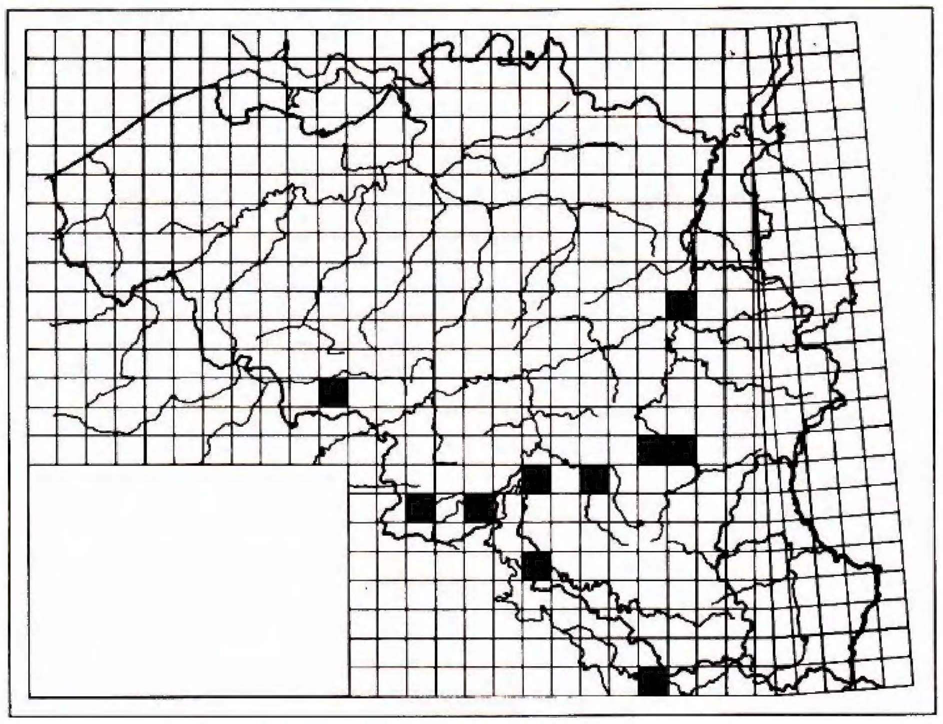

Fig. 2. Vindplaatsen van *Podagrica fuscipes* in België in de periode 2000–2018.

Dankzij de gegevens van Jean-Yves Baugnée (Liège), Jean Fagot (Jalhay) en de gecontroleerde gegevens van Waarnemingen.be werd een actueel verspreidingskaartje samengesteld (Fig. 2). Hieruit blijkt dat *P. fuscipes* tegenwoordig vooral te vinden is in de Fagne-Famenne-streek.

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ISSN 0771-5277